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American Marten Reintroduction
Progress Report
Fundy National Park
1991

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March, 1991

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ABSTRACT

This report is the 1991 update to the American marten reintroduction program at Fundy National Park. Previous reports on the reintroduction include Sullivan 1984, Quann 1985, Sinclair 1987, Sinclair 1988, Sinclair 1989. Marten have been released at Fundy National Park since 1984.

The total number of marten released is now 44, comprised of 24 males, 17 females and 3 young born in captivity of unknown sex.

In March 1991, six animals were released after blood samples were drawn and sent to the University of Alberta for DNA analysis. Two males were radio collared before being released and their locations will be plotted during the summer of 1991.

METHODOLOGY

Blood sampling was conducted on marten for the first time since the beginning of the reintroduction program.

Blood was collected for DNA analysis at the St. Andrews Veterinary Clinic in Waterside, N.B. by Wardens G. Sinclair and S. Hicks under the supervision of Dr. Lucy Steunenberg, D.V.M.

Marten were anaestheticized using Ketamine hydrochloride at a dosage of 0.1 cc to 0.15 cc. The hair on the throat of the marten was clipped with electric clippers exposing the jugular vein area. The area clipped was approximately 2 cm. square. The vein on the front leg near the body is sufficient if only a small volume of blood is required.

Blood was drawn using the techniques outlined by the Fur Animal Division of the National Institute of Animal Science, Trollesminde, Hillerod, for mink.

Vein Puncture - V. jugularis. The vein runs along a 5 cm-long superficial course laterventally on the neck. The shaved area was swabbed with alcohol to enhance the vein. Haemostasis in the vein was obtained by pressing close to the shoulder and into the rib cage. The vein was easily located but this method requires two persons.

The best position of the animal is dorsal recumbency with its head toward the operator. The assistant holds the head of the marten and enhances the vein. The operator holds the vein steady with one hand and tightens the skin. The puncture is made in the caudal direction with the cannula at an angle of about 20° to the skin surface. The stab must not be too deep in order not to perforate the vein. When the cannula is correctly placed in the vein, the blood is sucked into the cylinder by maintaining a slow constant withdrawal of the piston. A 5 cc syringe with a 25 g needle was used to minimize the risk of injury to the wall of the vein.

Disposable syringes and cannulas were used for each marten, but they require much routine, as it is difficult to keep the suction constant.

If the cannula is pushed too deep it may perforate the carotoid artery. This blood flow can be controlled by maintaining direct pressure on the puncture site for 5 minutes. After the cannula is withdrawn, pressure for several minutes will control bleeding from the jugular vein. Minor bleeding was observed on one marten after withdrawal.

It is best to start drawing blood as close to the head as possible and if more blood is required, it can be taken further down the neck.

The marten were held in travelling boxes for at least two hours before being returned to the holding cages. The marten were alert at that time and after several days still did not suffer any ill effects.

On March 8, 1991 the marten were checked while being tattooed and there was no sign of any injury at the collection site.
The sample was placed in 5 cc vacutainers containing ETDA and refrigerated at Fundy National Park for two days before being shipped to Dr. Curtis Strobeck, University of Alberta, Edmonton, Alberta, T6G 2E9.

The samples were shipped in a styrofoam holder and then packed with 2 frozen gel packs inside a styrofoam cooler inside a box before being shipped by courier.

A part of each sample (0.5 cc) was taken by S. Hicks of Terra Nova National Park to use in his experiment with DNA at Memorial University, St. John's, Newfoundland.

RESULTS

The marten released at Fundy National Park in 1991 were live-trapped in November 1990 during the provincial trapping season. The six marten were trapped by local trappers and G. Sinclair, Park Warden, during the first four days of the season. Marten were trapped on Irving forest lands at Deersdale, New Brunswick.

Marten were placed in the travel boxes and brought to Fundy National Park by truck. The marten were then placed in the holding cages at the Park and fed a daily diet consisting of mink, beaver or cat food. The marten were watered each day.

Marten were released in mid-March at the cage site - Matthews Head and Mile Brook. Prior to releasing, the marten were immobilized, tattooed and two had radio collars installed. Collars were battery powered, internal antenna with a magnetic switch obtained from Holohil Systems Ltd., R.R. # 2, Woodlawn, Ontario, K0A 3M0.

Marten tracks were observed near the cage site in February and a small bobcat also visited the cages occasionally. A live trap set for the marten caught the bobcat. It was a young animal and quite thin. The marten did not return to the cage site.

Marten were held longer than usual due to the scarcity of prey in the forest and the chance to take blood samples. Blood sampling was a new technique at Fundy National Park and provided an opportunity for Shawn Hicks of Terra Nova National Park to practice blood sampling on marten. He hopes to be able to use this procedure on the Newfoundland pine marten. Michael Johnson of the Nova Scotia Agriculture College provided material on blood sampling in mink which was the method used on the marten.

Dr. Curtis Strobeck, University of Alberta, provided advice and the shipping containers for the blood samples.

Table I. Statistics of Marten Released in 1991

Pine Marten Ref. # for Blood Sample	Sex	Age	Wt(g)	Tattoo Ears	Release Date March	Release Area	Radio Freq.
1B	M	A	850	S9	16	Matthews Head	
2B	F	A	450	S5	16	Matthews Head	
13B	M	J	875	S4	17	Mile Brk.	150.900
14B	M	J	675	S6	17	Mile Brk.	
19B	M	A	780	S7	16	H.Q.	150,921
20B	F	A	450	S8	10	H.Q.	

CONCLUSIONS

Due to the relative ease in obtaining blood samples from marten for the DNA repository, samples should be collected when marten become available. Marten were kept in captivity for a longer than normal period with no apparent health or behavior problems. The mink food diet seems to be satisfactory, however, wild meat such as beaver, deer or moose seemed to be enjoyed by the marten and was fed at least twice a week in small amounts.

Marten that had small amounts of straw in their boxes did not suffer any ill effects, however, a separate removable box should be installed to allow for ease of adding straw to the cages.

A videotape of the collaring, tattooing, weighing, release and blood collection operations was made by Park Wardens and is on file.

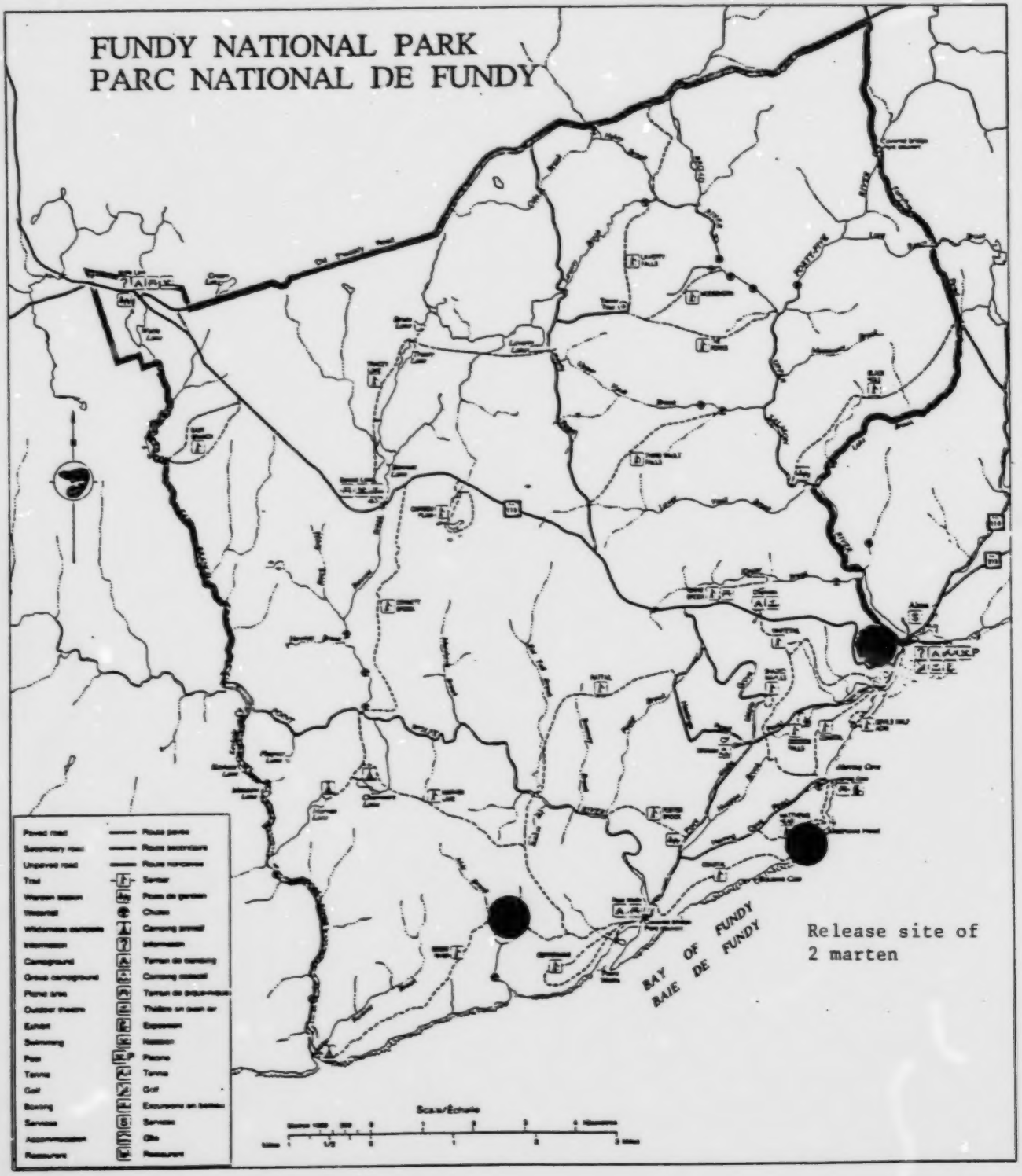
RECOMMENDATIONS

Marten locations should be monitored during the summer of 1991 and plotted for area used. Track transects will be continued for the next four years.

Marten that are captured for any reason will have a blood sample taken.

If future releases are conducted add a separate removable nest box to allow for ease of adding fresh bedding.

FIGURE II Map Illustrating Release Points of the Marten



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